

NEVADA CAREER AND TECHNICAL EDUCATION PROGRAM DESCRIPTIONS

NEVADA'S CAREER CLUSTERS (15)

Agriculture, Food & Natural Resources
Architecture & Construction
Arts, A/V Technology & Communication
Business, Management & Administration
Education & Training
Finance
Health Science
Hospitality & Tourism

Human Services
Information Technology
Manufacturing
Marketing, Sales & Services
Science, Technology, Engineering & Mathematics
Transportation, Distribution & Logistics
Law, Public Safety, Corrections & Security

NEVADA'S PROGRAMS BY CAREER CLUSTERS (75)

Agriculture, Food & Natural Resources

Agricultural Mechanics Technology
Agriculture Business Systems
Agriculture Leadership, Communication & Policy
Animal Science
Environmental Management
Floriculture Design & Management
Food Science Technology
Landscape Design & Management
Natural Resources & Wildlife Management
Ornamental Horticulture/Greenhouse Management
Veterinary Science

Architecture & Construction

Architectural Design
Construction Technology
Drafting & Design
Furniture & Cabinetmaking
Heating, Ventilation, Air Conditioning, & Refrigeration

Arts, A/V Technology & Communication

Fashion, Textiles & Design
Graphic Design
Interior Design
Photography
Radio Production
Theatre Technology
Video Production

Business, Management & Administration

Administrative Services
Business Management

Education & Training

Early Childhood Education

Finance

Accounting & Finance

Health Science

Biomedical
Dental Assisting
Emergency Medical Technician
Health Information Management
Medical Assisting
Nursing Assistant
Pharmacy Practice
Respiratory Therapy
Sports Medicine

Hospitality & Tourism

Baking & Pastry
Culinary Arts
Hospitality & Tourism

Human Services

Cosmetology
Family & Consumer Sciences
Foods & Nutrition
Human Development

Information Technology

Animation
Computer Science
Digital Game Development
IT Networking
IT Service & Support
Web Design & Development

Law, Public Safety, Corrections & Security

Criminal Justice
Emergency Telecommunications
Fire Science
Forensic Science
Law Enforcement

Manufacturing

Electronic Technology
Machine Tool Technology
Manufacturing Technologies
Mechanical Technology
Metalworking
Welding Technology

Marketing, Sales & Services

Entrepreneurship
Marketing
Sports & Entertainment Marketing

Science, Technology, Engineering & Mathematics

Aerospace Engineering
Architectural & Civil Engineering
Electrical Engineering
Energy Technologies
Environmental Engineering
Mechanical Engineering

Transportation, Distribution & Logistics

Automotive Service Technician
Automotive Technology
Aviation Maintenance Technician
Aviation Technology
Collision Repair Technology
Diesel Technology

AGRICULTURE, FOOD & NATURAL RESOURCES

Agricultural Mechanics Technology

This program covers the foundation skills necessary for agriculture mechanics and industry employment. Areas of study may include general shop safety, basic welding, electrical applications, water management, agricultural drafting and construction, engines and power, and machinery maintenance and repair.

Agriculture Business Systems

This program provides agriculture students with the information and skills necessary for success in agribusiness. Areas of study include agriculture economics, business planning, financial concepts, marketing, sales, careers, and leadership development.

Agriculture Leadership, Communication & Policy

This program provides agriculture students with instruction on leadership and communication skills in the agricultural field. Areas of study include research methodology, verbal and written communication, journalism, mass media, agriculture policy, careers, and leadership development.

Animal Science

The Animal Science program provides students with the principles of the livestock and red meat industry. Areas of study include the basic anatomy and physiology of domestic animals, genetics, reproduction, animal health and welfare, evaluation and selection of animals, land stewardship, marketing, and leadership development.

Environmental Management

This program provides agriculture students with the information and skills necessary for success in environmental management. Areas of study include ecology, environmental quality, sustainable use, GIS and GPS, energy, hydrology and hydrogeology, law and public policy, environmental site analysis, careers, and leadership development.

Floriculture Design & Management

This program provides students with the principles of floral design and management. Areas of study include the history of floral design, the use of color, tools and principles of design in floral arrangements, plant identification, care and processing of cut flowers, marketing and sales, recordkeeping, floral business management, and leadership development.

Food Science Technology

This program provides students with the basic laws of chemistry, microbiology, and physics applied to the production, processing, preservation, and packaging of food. Experimentation will allow students to see how scientific principles are involved in food preparation, handling, and storage.

Landscape Design & Management

This program provides students with the principles of landscape design and management. Areas of study include safety, design principles and application, plant selection and care, hardscaping, irrigation, integrated pest management, careers, and leadership development.

Natural Resources & Wildlife Management

This program provides students with the concepts of natural resources science and management. Areas of study include ecological concepts and scientific principles, rangeland management, fire ecology, GPS and GIS, fish and wild ecology, forestry, renewable and nonrenewable resources, fish and wildlife management, and leadership development.

Ornamental Horticulture/Greenhouse Management

This program provides students with the principles of plant science, ornamental horticulture and greenhouse management. Areas of study include plant anatomy and physiology, plant identification, propagation, growing media, nutrition, integrated pest management, plant technologies, growing greenhouse crops, greenhouse business concepts, and leadership development.

Veterinary Science

This program provides agriculture students with the information and skills necessary for success in veterinary science. Areas of study include safety and sanitation in the clinical setting, medical terminology, anatomy and physiology, medical math, lab techniques, diseases and disorders, nutrition, clinical procedures, office procedures, ethical and animal welfare issues, careers, and leadership development.

ARCHITECTURE & CONSTRUCTION

Architectural Design

The Architectural Design program provides students with the principles of architectural design. Areas of emphasis include spatial reasoning, elements and principles of design, application of the design process, advanced digital drawing techniques, building codes, and professional presentation techniques.

Construction Technology

The Construction Technology program provides students the opportunity to develop technical skills that are used throughout the construction industry. Areas of study include safety, blueprint reading, carpentry and rough framing, exterior finishing applications, surveying, site development, scaffolding, electrical, plumbing, concrete, and masonry.

Drafting & Design

This program provides students with the principles of technical and architectural drafting and design concepts. Areas of study include sketching, dimensioning and annotation, construction and engineering documentation, 3D modeling, problem solving, critiquing, and team building.

Furniture & Cabinetmaking

This program will introduce students to the various stages of construction, fabrication, and assembly of wood products and related materials. This program is intended to provide students with the knowledge and skills necessary to design, construct, and finish furniture and/or cabinets in the woodworking industry. Through the program activities the student will gain an understanding of safety procedures, machine operation, and industrial applications including the software and hardware components of computer numerical control (CNC) equipment.

Heating, Ventilation, Air Conditioning, & Refrigeration

The Heating, Ventilation, Air Conditioning, & Refrigeration program provides students the opportunity to develop technical skills that are used throughout the HVACR industry. Areas of study include servicing air handling systems, heat pumps, gas heat systems, commercial refrigeration systems, system installation, ductwork size and design, and troubleshooting techniques.

ARTS, A/V TECHNOLOGY & COMMUNICATION

Fashion, Textiles & Design

The Fashion, Textiles, and Design program provides students with an introduction to the fundamentals of fashion, design, and construction. Areas of study include individual image, psychological and social aspects of clothing, wardrobe planning, consumer decision-making, pattern and textile selection, construction techniques, handling and care techniques, the use and care of sewing equipment, clothing repair, and fashion-related occupations.

Graphic Design

The Graphic Design program provides students with an introduction of the principles of creating graphic works. Areas of study include elements and principles of design, production aspects, legal and ethical issues, and portfolio development.

Interior Design

The Interior Design program provides students with an introduction to the fundamentals of interior design. Areas of study include elements and principles of design and their application in residential and commercial design; historical, cultural and technological influences; architectural styles and housing types; fundamentals of house plans, home construction and house systems; green, sustainable, and ecological considerations in design; furniture styles, construction, and arrangement; financial considerations; and careers and professional practices.

Photography

The Photography program provides students with the principles of commercial photography. Areas of study include camera and lens operation, lighting, image capture and digital image editing and processing. Students will learn the history of photography, legal and ethical issues related to the industry, and develop a portfolio.

Radio Production

This program provides students with the concepts and skills needed for radio broadcast production. Students learn on-air production techniques, news writing, sound gathering, and production operations through the platform of an internet radio station. Marketing and station promotion are also learned.

Theatre Technology

This program instructs students in the craft and technical skills of theatrical production. Instruction includes theatre safety, lighting, scenic design and construction, and stage management.

Video Production

The Video Production program provides students instruction in the various video production processes and techniques. Areas of study include camera operation, On-Air program production, creative works, and video editing. Students will produce original video and live broadcast productions. Emphasis is placed on writing, pre/post production, editing techniques, and studio and engineering procedures.

BUSINESS, MANAGEMENT & ADMINISTRATION

Administrative Services

The Administrative Services program provides students with the principles of business office procedures and management. Areas of study include software applications, accounting functions, customer relations, human resources, and career exploration.

Business Management

This program provides students with the overall principles of business management. Areas of study include economics, budgeting, human resource management, operations, strategic management, and financial-based decision making.

EDUCATION & TRAINING

Early Childhood Education

The Early Childhood Education program addresses child development, child care, and teaching and learning, to guide the development of young children in an educational setting. Areas of study include planning and implementing developmentally appropriate activities, basic health and safety practices, legal requirements for teaching young children, and the development of a career portfolio.

FINANCE

Accounting & Finance

This program provides students with a foundation in accounting, financial information, and financial business decision making. Areas of study include laws and regulations, evaluating financial information, banking, investment, economics, and risk management concepts.

HEALTH SCIENCE

Biomedical

The Biomedical program provides students with the knowledge and skills in inquiry science, disease exploration, human body systems, and biomedical engineering. Areas of study include infectious and genetic diseases, molecular biology, oncology, metabolism, homeostasis, and exercise physiology.

Dental Assisting

This program is designed for the student interested in a career in the dental field. It covers all procedures utilized in the dental office during the practice of dentistry. It gives students a vast knowledge base of dental anatomy, dental disease processes and treatment. It develops the dexterity, knowledge and communication skills needed to work as a dental assistant.

Emergency Medical Technician

The Emergency Medical Technician program provides students with an introduction to emergency medical technician techniques and processes. The program provides the primary skills and knowledge for the pre-hospital emergency medical provider. It includes areas of study in legalities, trauma and medical assessment, documentation, patient care, and basic life support.

Health Information Management

This program is designed to familiarize students with computerized account management and to help students develop confidence and skills necessary to become successful users of Medical Account Management software. Areas of study include understanding the legal aspects of HIPAA and responsibilities of medical office staff, utilizing a computer program to maintain patient files.

Medical Assisting

The Medical Assisting program provides students with the knowledge and skills required for entry level into administrative and clinical medical assisting. Areas of study include diversity, awareness, pharmacology, health information management, and laboratory procedures.

Nursing Assistant

The Nursing Assistant program provides students with the knowledge and skills required for entry into the healthcare field. Students completing the didactic and clinical practicum are eligible for the Nevada State of Nursing Certifying exam as a Nursing Assistant.

Pharmacy Practice

The Pharmacy Practice program provides students with an introduction to practices and fundamentals of pharmacology. Areas of study include pharmacy, calculations, routes, inventory management, and factors affecting drug activity.

Respiratory Therapy

This program provides students with the principles of respiratory therapy. Areas of emphasis include medical terminology, medical math, industry requirements, basic techniques, and procedures.

Sports Medicine

This program provides students with an introduction to sports medicine techniques and processes. The program provides the primary skills and knowledge in athletic training, and sports medicine related fields. The areas of study include physical fitness, human anatomy and physiology, injury evaluation and prevention, and rehabilitation.

HOSPITALITY & TOURISM

Baking & Pastry

The Baking and Pastry program provides students with an in-depth study of the baking and pastry arts. Areas of study include baking terminology, tool and equipment use, formula conversions, functions of ingredients; and methods used in creating breads, pastries, cookies, and other desserts. The fundamentals of dough and basic decorating skills are also covered.

Culinary Arts

The Culinary Arts program provides students with an introduction to the principles and techniques of commercial food production. Areas of study include basic skills in food handling, food and nutritional science, equipment technology, cooking methods, kitchen safety, sanitation procedures, and employability skills in an environment that models industry standards.

Hospitality & Tourism

The Hospitality and Tourism program provides students with an introduction to many career areas in the hospitality field. Students will learn the roles of jobs in both the front-of-the-house and back-of-the-house in travel and tourism, hotel operations, food and beverage, and event sales and service.

HUMAN SERVICES

Cosmetology

This program is designed to prepare students for the Nevada State Board of Cosmetology Licensing Exam and to meet the 1800-hour requirement for licensure. Students have the opportunity to receive a master license that allows them to choose many career options such as a nail technician, aesthetician, or hair stylist. Areas of study include theory and clinical instruction in professional ethics, sanitation, human anatomy, facials, skin care, makeup application, manicures, pedicures, acrylic nails, haircutting, haircoloring, permanent waving, chemical relaxing, and all phases of hair care.

Family & Consumer Sciences

This program provides instruction in family and consumer sciences topics to prepare students for adult roles and responsibilities. The major focus is on developing skills for balancing home, work, and life by studying how to be successful with life management, wealth management, family development, home management, health and fitness, and leadership and community participation.

Foods & Nutrition

This program provides an in-depth study in the areas of food preparation, nutrition and their relationships to personal and family wellness. Students study the importance of food choices and learn preparation techniques to maintain nutrition with the goal of fitness. Other topics include foods and customs, individual needs throughout the lifecycle and occupations in the food services industry.

Human Development

This program introduces the topic of Human Development. Areas of study include the stages of human growth and development throughout the lifespan. Topics include developmental stages and influences on physical, intellectual, social and emotional growth.

INFORMATION TECHNOLOGY

Animation

The Animation program provides students with the principles of 2D and 3D animation and graphics. Areas of study include storyboarding, modeling, background development, and the production process.

Computer Science

The Computer Science program provides students with the principles of computer science and programming. Areas of study include methodology, algorithms, data structures and object-oriented programming. Java and C++ are the primary languages taught.

Digital Game Development

The Digital Game Development program provides students with the principles of game mechanics. Areas of study include programming, story and character development, and artistic theory and concepts to develop a game.

IT Networking

The Information Technology-Networking program provides students with concepts in computer networking. Areas of study include safety procedures, network systems hardware, network protocols, and constructing and maintaining a network.

IT Service & Support

The Information Technology-Service and Support program provides students with computer maintenance and repair concepts. Areas of study include hardware repair, software installation, security, knowledge of computer components, and troubleshooting.

Web Design & Development

The Web Design and Development program provides students with concepts to develop and maintain websites. Areas of study include content development, backend programming, design and layout theories, and user interface.

LAW, PUBLIC SAFETY, CORRECTIONS & SECURITY

Criminal Justice

The Criminal Justice program provides students with an understanding of the difference between the civil and criminal codes in the American Legal System, with a particular emphasis on criminal and civil cases decided by local, state and federal courts. Areas of study include civil law, criminal law, legal and ethical issues, corrections, policing and the government.

Emergency Telecommunications

This entry-level program is designed for the student interested in a career in the emergency communications field. Areas of study will include telecommunication centers, dispatching, use of 911 computer systems, participation in emergency scenarios, and call processing.

Fire Science

This program provides students with an introduction to fire science techniques and processes. The program provides the skills and knowledge affecting wildland fire behavior and suppression, fire investigations, fire prevention, CPR/First Aid, engine companies, and potential hazards and human factors on the fire line.

Forensic Science

This program introduces the principles and procedures employed in criminal and civil investigations. Areas of studies include scientific endeavors such as medicine, pathology, psychology, geology, entomology, fingerprint technology, chemistry, and biology. Emphasis will be put on gathering, analyzing, and interpreting physical evidence, using modern laboratory technologies and procedures.

Law Enforcement

This program provides students with an introduction to law enforcement techniques and processes. Areas of study include basic functions of a law enforcement officer such as: written policies, quality control, court system, law, interrogations, use of force, and emergency management.

MANUFACTURING

Electronic Technology

The Electronic Technology program provides students the opportunity to develop technical skills that are used throughout the electronic industry. Areas of study include safety, tools, direct current (DC), alternating current (AC), schematics, soldering, measuring electricity, Ohm's/Watt's/Kirchhoff's Laws, semiconductors, electronic circuits, and digital theory.

Machine Tool Technology

This program will introduce students to the basic skills and machines needed in precision metal work. Students gain machining skills while working with lathes, milling machines, surface grinders, drill presses, and other equipment. In addition, students learn the basics of blueprint reading, precision measuring, layout, and machining process planning.

Manufacturing Technologies

The Manufacturing Technologies program provides students to the fundamentals of manufacturing technologies. Areas of emphasis include print reading, spatial reasoning, automation, fabrication, quality control, and various manufacturing power systems.

Mechanical Technology

The Mechanical Technology program provides students the opportunity to learn the operation and maintenance of various mechanical, electrical, and fluid power systems. Areas of study include safety, tools usage, print reading, energy principles, power systems, manufacturing processes, and instrumentation.

Metalworking

This program provides students with instruction in the various metalworking processes. Areas of study include safety procedures, print reading, measurement, properties of metals, machine operation, metal-fabricating methods, industrial applications, and problem-solving. Students will also be introduced to the principles of metallurgy, metal lathe operation, forging methods, casting process, welding, and heat-treating procedures.

Welding Technology

The Welding Technology program provides students with instruction in the industry standard welding practices. Areas of study include print reading, measurement, properties of metals, SMAW, GMAW, FCAW, GTAW, thermal cutting, codes, inspections, and certifications. This program prepares welding technology students for the American Welding Society (AWS) certification tests.

MARKETING, SALES & SERVICES

Entrepreneurship

This program provides students instruction in the nature and scope of entrepreneurship, the impact of entrepreneurship on market economies, marketing functions, and economic concepts. Business plan development is the key tool by which students will learn concepts in marketing plans, business functions, and finance.

Marketing

This program provides students with the overall principles of marketing and business administration. Areas of study include economic systems, business fundamentals, marketing information, product/service management, promotion, pricing and professional selling.

Sports & Entertainment Marketing

The Sports and Entertainment Marketing program provides students with knowledge in business functions, economics, marketing principles, selling, ticket distribution, and finance as applied to sports and entertainment marketing. Emphasis is placed on event marketing and promoting in large venues such as concerts and sporting events.

SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

Aerospace Engineering

The Aerospace Engineering program provides students the opportunity to learn various aspects of aerospace engineering. Areas of study include safety, construction documentation, the engineering design process, impacts of engineering on society, material properties, energy principles, physics of flight, propulsion systems, orbital mechanics, and remote systems.

Architectural & Civil Engineering

The Architectural and Civil Engineering program provides students the opportunity to learn various aspects of architecture and civil engineering. Areas of study include safety, construction documentation, the engineering design process, impacts of engineering on society, material properties, energy principles, residential design concepts, and commercial applications.

Electrical Engineering

The Electrical Engineering program provides students the opportunity to learn various aspects of electronic engineering. Areas of study include safety, construction documentation, the engineering design process, impacts of engineering on society, material properties, energy principles, fundamental electronic principles, analog and digital principles, logic circuits, and microcontrollers.

Energy Technologies

This program introduces students to the power industry. Students will gain an understanding of the various energy sources, energy forms, energy principles, efficiency concepts, electricity, and electrical codes and policies.

Environmental Engineering

This program explores the diverse fields of environmental engineering systems. Hands-on projects engage students in design solutions in response to real-world challenges related to clean and abundant drinking water, food supply issues, and renewable energy.

Mechanical Engineering

The Mechanical Engineering program provides students the opportunity to learn various aspects of mechanical engineering. Areas of study include safety, construction documentation, the engineering design process, impacts of engineering on society, material properties, energy principles, manufacturing systems and processes, and automation.

TRANSPORTATION, DISTRIBUTION & LOGISTICS

Automotive Service Technician

The Automotive Service Technician program provides students with instruction in the operational and scientific nature of the automotive component systems including fuel, intake, exhaust, ignition, lubrication, braking, heating and cooling, electrical, and suspension systems.

Automotive Technology

The Automotive Technology program provides students with instruction in the operational and scientific nature of the automotive component systems including fuel, intake, exhaust, ignition, lubrication, braking, heating and cooling, electrical, and suspension systems.

Aviation Maintenance Technician

This program will introduce students to the operational and scientific nature of the aviation maintenance industry. This program will introduce students to safe working habits, components of a reciprocating engine, aircraft control systems, and avionics systems.

Aviation Technology

This program introduces student on the principles of flight, the aircraft flight environment, aircraft performance standards, flight controls, metrology, radio communications, flight planning, FAA regulations, navigation, the human body in flight, airman decisions making, accident prevention, Airman Information Manual, and the fundamentals of instrument flight. This course prepares the students to take the FAA Part 61.109 Private Pilot Written Exam

Collision Repair Technology

The Collision Repair Technology program provides students with instruction in collision repair and refinishing techniques. Areas of study include safety, surface prep, dent repair, metal repair, painting techniques, and painting applications.

Diesel Technology

This program provides students with fundamental diesel systems theory, service and repair. It will introduce the operational and scientific nature of diesel systems. It will provide students with a basic knowledge of diesel systems and operating principles. Areas of study include: engines, steering and suspension, preventative maintenance, hydraulics, electrical systems, and braking systems.